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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/422,347	10/21/1999	DIRK OOMS	Q056325	5427

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SUGHRUE MION ZINN MACPEAK & SEAS PLLC
2100 PENNSYLVANIA AVE NW
WASHINGTON, DC 200373202

EXAMINER

SWICKHAMER, CHRISTOPHER M

ART UNIT PAPER NUMBER

2697

DATE MAILED: 12/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/422,347

Applicant(s)

OOMS ET AL. W

Examiner

Christopher M Swickhamer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 October 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other: ____

DETAILED ACTION

Oath/Declaration

- ✓ 1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:
It does not identify the citizenship of each inventor.

Specification

- ✓ 2. The disclosure is objected to because of the following informalities: the words "realise" and "Summarasing" are misspelled on page 7, line 2 and on page 9, line 9 respectively. This list is not inclusive, please correct any and all misspellings within the application.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- ✓ 4. Claims 3, 4, and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- The term "similar" in claims 3, 4 and 9 is a relative term that renders the claim indefinite. The term "similar" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be

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reasonably apprised of the scope of the invention. For the purpose of examination, the claims will be examined ignoring the word "similar" and all words thereafter.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Cidon (U.S. Patent No. 5,309,433). Referring to Claim 1, Cidon discloses a device for compressing a list of destination addresses of a multicast message comprising means to detect a common prefix in at least two destination addresses of said list (col. 2, lns. 25-32), characterized in that said device for concatenating Automatic Network Routing(ANR) labels representing the addresses of the common nodes (routers and hosts) and Tree Multicast Mode(TMM) tree addresses to multicast the packets to the branches in the network trees in the routing field of the packet (compressing further comprises means to generate a sequence of suffixes of said at least two destination addresses, and means to constitute a compound destination address, adapted to add said sequence of suffixes to said common prefix to thereby constitute said compound destination address, col. 2, lns. 33-43).

- Referring to Claim 7, Cidon discloses a method for compressing a list of destination addresses of a multicast message whereby common nodes labels are generated, ANR (prefix), for at least two destination addresses of said list, characterized in that further a tree address

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(sequence of suffixes) is generated of said at least two destination addresses and a compound destination address is constituted by adding said ANR labels to the tree addresses (sequence of suffixes to said common prefix, col. 1, lns. 33-66).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2, 4, 5-6, 8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cidon in view of Johnson (U.S. Patent No. 6,247,059). Referring to Claim 2, Cidon discloses all of the limitations of Claim 1, but does not expressly disclose that the destination addresses consist of Internet Protocol addresses. Johnson discloses a system that uses Internet Protocol addresses as destination addresses (col. 8, lns. 22-26). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to use the multicast packet routing system of Cidon using Internet Protocol addresses as destination addresses. One of ordinary skill in the art would have been motivated to do this since Internet Protocol addresses can be used to route packets for Multicast transmission over the Internet (col. 8, lns. 42-56).

- Referring to Claim 4, Cidon discloses all of the limitations of Claim 1 as set forth above, where the destination addresses consist of compound addresses (Fig. 6, col. 2, lns. 25-32).

- Referring to Claim 5, Cidon discloses all of the limitations of Claim 1, characterized in that said device is incorporated in a node (host, col. 1, lns. 13-32) of a communications network,

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but does not expressly disclose the network has connectionless capabilities. Johnson discloses a system with connectionless multicast transmission capabilities (col. 4, Ins. 42-48). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the multicast packet routing system of Cidon with connectionless transmission capabilities. One of ordinary skill in the art would have been motivated to do this since connectionless internode communication of packets can be transmitted via the Internet (col. 4, Ins. 34-38).

- Referring to Claim 6, Cidon discloses all of the limitations of Claim 1, characterized in that said device is incorporated in a node (router, col. 1, Ins. 12-32) of a communications network having forwarding capabilities, but does not expressly disclose the system is connectionless. Johnson discloses a connectionless packet transmission system (col. 4, Ins. 34-56). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the multicast packet routing system of Cidon as a connectionless transmission system. One of ordinary skill in the art would have been motivated to do this since connectionless internode communication of packets can be transmitted via the Internet (col. 4, Ins. 34-38).

- Referring to Claim 8, Cidon discloses a node (Router) of a communications network having multicast forwarding capabilities, characterized in that said node (router) incorporates a device for compressing a list of destination addresses of a multicast message as defined by claim 1 (col. 1, Ins. 33-49), but does not expressly disclose that the system is connectionless. Johnson discloses a multicast packet system that is connectionless (col. 4, Ins. 34-56). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the multicast packet routing system of Cidon as a connectionless system. One of ordinary skill in

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the art would have been motivated to do this since connectionless internode communication of packets can be transmitted via the Internet (col. 4, lns. 34-38).

- Referring to Claim 10, Cidon discloses a node (Host) of a communications network having multicast transmission capabilities, characterized in that said node (host) incorporates a device for compressing a list of destination addresses of a multicast message as defined by claim 1, but does not expressly disclose that the system is connectionless. Johnson discloses a multicast packet system that is connectionless (col. 4, lns. 34-56). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the multicast packet routing system of Cidon as a connectionless system. One of ordinary skill in the art would have been motivated to do this since connectionless internode communication of packets can be transmitted via the Internet (col. 4, lns. 34-38).

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cidon in view of Alkhatib (U.S. Patent No. 6,430,623). Referring to Claim 3, Cidon discloses all of the limitations of Claim 1 as set forth above, characterized in that said list of destination addresses consist of compound addresses (Fig. 6, col. 2, lns. 25-32), but does not expressly disclose there are also IP addresses. Alkhatib discloses a system with IP addresses as well as domain name information (compound address, col. 3, lns. 15-28) for local address information. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the multicast packet routing system with compound addresses of Cidon, with an IP address. One of ordinary skill in the art would have been motivated to do this since the system could use either a local or global address to route data in the network (col. 3, lns. 25-28).

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10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cidon and Johnson in further view of Alkhatib. Referring to Claim 9, Cidon and Johnson disclose a node (router) with all of the limitations of Claim 8, but do not disclose a routing table memory addressed by the compound address. Alkhatib discloses a routing table used to find a destination address when an IP packet is received. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the multicast packet routing system of Cidon and Johnson, with a routing table. One of ordinary skill in the art would have been motivated to do this since a routing table can store IP addresses for hosts in the networks closet to the router (col. 6, lns. 60-65).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Heuer, U.S. Patent No. 6,236,660. *Method for Transmitting Data Packets and Network Element for Carrying out the Method.*
- Venkatachary et al, U.S. Patent No. 6,212,184. *Fast Scalable Methods and Devices for Layer Four Switching.*
- Wilkinson et al, U.S. Patent No. 6,014,659. *Compressed Prefix Matching Database Searching.*
- Leung et al, U.S. Patent No. 5,103,444. *Conference Connection Method in a Multicast Packet Switching Network.*
- Auerbach et al, U.S. Patent No. 5,355,371. *Multicast Communication Tree Creation and Control Method and Apparatus.*


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M Swickhamer whose telephone number is (703) 306.4820. The examiner can normally be reached on 8:00-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (703) 305.4798. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308.9571 for regular communications and (703) 827.9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305.3900.

CMS
December 3, 2002


RICKY NGO
PRIMARY EXAMINER